

CLAIMS

1. Communications method comprising the procedure of:

modulating a second generation carrier signal, with a first
5 generation Baseband bandwidth signal, when transmitting to first
generation devices,

wherein the frequency of said second generation carrier signal,
is an integer multiple of said first generation Baseband bandwidths,
away from a first generation carrier signal frequency.

2. The communications method according to claim 1, further comprising
the procedure of:

modulating said second generation carrier signal, with a second
generation Baseband bandwidth signal, when transmitting to second
15 generation devices.

3. The communications method according to claim 1, further comprising
the procedure of:

selecting a second generation frequency range, around said
20 second generation carrier frequency, said second generation
frequency range overlapping the frequency range of at least one
instance of first generation basic signals.

4. The communications method according to claim 1, wherein said first generation bandwidth Baseband signal is in digital format.

5 5. The communications method according to claim 1, wherein said first generation bandwidth Baseband signal is in analog format.

6. The communications method according to claim 1, wherein said second generation bandwidth Baseband signal is in digital format.

10 7. The communications method according to claim 1, wherein said second generation bandwidth Baseband signal is in analog format.

8. The communications method according to claim 1, wherein said second generation carrier signal is in digital format.

15 9. The communications method according to claim 1, wherein said second generation carrier signal is in analog format.

10. Communications method comprising the procedure of:

20 selecting a second generation carrier frequency for a second generation carrier signal, said second generation carrier frequency being an integer multiple of first generation Baseband bandwidths, away from a first generation carrier signal frequency; and

modulating said second generation carrier signal, with a first generation Baseband bandwidth signal, when transmitting to first generation devices.

5 11. The communications method according to claim 10, further comprising the procedure of:

modulating said second generation carrier signal, with a second generation Baseband bandwidth signal, when transmitting to second generation devices.

10 12. The communications method according to claim 10, further comprising the procedure of:

15 selecting a second generation frequency range, around said second generation carrier frequency, said second generation frequency range overlapping the frequency range of at least one instance of first generation basic signals.

20 13. The communications method according to claim 10, wherein said first generation bandwidth Baseband signal is in digital format.

14. The communications method according to claim 10, wherein said first generation bandwidth Baseband signal is in analog format.

15. The communications method according to claim 10, wherein said second generation bandwidth Baseband signal is in digital format.

16. The communications method according to claim 10, wherein said second generation bandwidth Baseband signal is in analog format.

17. The communications method according to claim 10, wherein said second generation carrier signal is in digital format.

18. The communications method according to claim 10, wherein said second generation carrier signal is in analog format.

19. Multiple generation communications device comprising:

first signal generator, generating a first generation bandwidth Baseband signal;

a second signal generator, generating a second generation bandwidth Baseband signal;

a controller;

a switch, coupled with said controller, said first signal generator and said second signal generator;

carrier signal generator, providing a second generation carrier signal, the frequency of said second generation carrier signal, is an

integer number of first generation Baseband bandwidths, away from the frequency of a first generation carrier signal;

a modulator, coupled with said switch and said carrier signal generator,

5 wherein said switch couples said first signal generator with said modulator, when said controller selects said first generation bandwidth Baseband signal to modulate said second generation carrier signal;

10 wherein said switch couples said second signal generator with said modulator, when said controller selects said second generation bandwidth Baseband signal to modulate said second generation carrier signal; and

15 wherein said modulator modulates the selected one of said first generation bandwidth Baseband signal and said second generation bandwidth Baseband signal, with said second generation carrier signal, thereby producing a transmission signal.

- 20 20. The multiple generation communications device, according to claim 19, further comprising a communication interface, coupled with said modulator, said communication interface providing said transmission signal to a network.

21. The multiple generation communications device, according to claim 19, further comprising an up-sampler, coupled with said first signal generator, said up-sampler up-sampling sampled Baseband data, thereby producing multiple copies of said sampled Baseband data.

5

22. The multiple generation communications device according to claim 19, wherein said controller selects said first generation bandwidth Baseband signal to modulate said second generation carrier signal, when transmitting to first generation communication devices.

10

23. The multiple generation communications device according to claim 19, wherein said controller selects said second generation bandwidth Baseband signal to modulate said second generation carrier signal, when transmitting to second generation communication devices.

15

24. The multiple generation communications device according to claim 19, wherein said first generation bandwidth Baseband signal is in digital format.

20 25. The multiple generation communications device according to claim 19, wherein said first generation bandwidth Baseband signal is in analog format.

26. The multiple generation communications device according to claim 19, wherein said second generation bandwidth Baseband signal is in digital format.

5 27. The multiple generation communications device according to claim 19, wherein said second generation bandwidth Baseband signal is in analog format.

10 28. The multiple generation communications device according to claim 19, wherein said second generation carrier signal is in digital format.

29. The multiple generation communications device according to claim 19, wherein said second generation carrier signal is in analog format.

15 30. The multiple generation communications device according to claim 19, wherein said communication interface is further coupled with a wired network.

20 31. The multiple generation communications device according to claim 19, wherein said communication interface is further coupled with a wireless network.

32. Multiple generation communications network architecture comprising:

a network;

at least one first generation communications device, coupled with said network; and

at least one second generation communications device, coupled with said network,

wherein at least one of said at least one second generation communications device comprises:

a first signal generator, generating a first generation bandwidth Baseband signal;

a second signal generator, generating a second generation bandwidth Baseband signal;

a controller;

a switch, coupled with said controller, said first signal generator and said second signal generator;

carrier signal generator, providing a second generation carrier signal, the frequency of said second generation carrier signal, is an integer number of first generation Baseband bandwidths, away from the frequency of a first generation carrier signal;

a modulator, coupled with said switch and said carrier signal generator,

wherein said switch couples said first signal generator with said modulator, when said controller selects said first generation

bandwidth Baseband signal to modulate said second generation carrier signal;

wherein said switch couples said second signal generator with said modulator, when said controller selects said second generation bandwidth Baseband signal to modulate said second generation carrier signal; and

wherein said modulator modulates the selected one of said first generation bandwidth Baseband signal and said second generation bandwidth Baseband signal, with said second generation carrier signal, thereby producing a transmission signal.

33. The multiple generation communications network according to claim 32, wherein said network is an analog network.

34. The multiple generation communications network according to claim 32, wherein said network is a digital network.

35. The multiple generation communications network according to claim 32, wherein said network is a wired network.

36. The multiple generation communications network according to claim 32, wherein said network is a wireless network.

37. Backward compatible transmitter comprising means for modulating a second generation carrier signal, with a first generation Baseband bandwidth signal, when transmitting to first generation devices,

wherein the frequency of said second generation carrier signal,
is an integer multiple of said first generation Baseband bandwidths,
away from a first generation carrier signal frequency.

38. The backward compatible transmitter according to claim 37, wherein said means for modulating further modulates said second generation carrier signal, with a second generation Baseband bandwidth signal, when transmitting to second generation devices.

39. The backward compatible transmitter according to claim 37, further comprising means for selecting a second generation frequency range around said second generation carrier frequency, said second generation frequency range overlapping the frequency range of at least one instance of first generation basic signals.

40. Backward compatible transmitter comprising:

means for selecting a second generation carrier frequency for a second generation carrier signal, said second generation carrier frequency being an integer multiple of first generation Baseband bandwidths, away from a first generation carrier signal frequency; and

means for modulating said second generation carrier signal, with a first generation Baseband bandwidth signal, when transmitting to first generation devices.

5 41. The backward compatible transmitter according to claim 40, wherein said means for modulating also modulates said second generation carrier signal, with a second generation Baseband bandwidth signal, when transmitting to second generation devices.

10 42. The backward compatible transmitter according to claim 40, further comprising means for selecting a second generation frequency range around said second generation carrier frequency, said second generation frequency range overlapping the frequency range of at least one instance of first generation basic signals.

15

43. Multiple generation communications device comprising:

means for generating a first generation bandwidth Baseband signal;

20

means for generating a second generation bandwidth Baseband signal;

means for controlling;

means for switching, coupled with said means for controlling, said means for generating said first signal generation bandwidth

Baseband signal and said means for generating said second signal generation bandwidth Baseband signal;

means for generating a second generation carrier signal, the frequency of said second generation carrier signal, is an integer number of first generation Baseband bandwidths, away from the frequency of a first generation carrier signal;

means for modulating, coupled with said means for switching and said means for generating a second generation carrier signal,

wherein said means for switching couples said means for generating said first signal generation bandwidth Baseband signal with said means for modulating, when said means for controlling selects said first generation bandwidth Baseband signal to modulate said second generation carrier signal;

wherein said means for switching couples said means for generating said second signal generation bandwidth Baseband signal with said means for modulating, when said means for controlling selects said second generation bandwidth Baseband signal to modulate said second generation carrier signal; and

wherein said means for modulating modulates the selected one of said first generation bandwidth Baseband signal and said second generation bandwidth Baseband signal, with said second generation carrier signal, thereby producing a transmission signal.

44. The multiple generation communications device, according to claim 43, further comprising means for interfacing with a communication network, coupled with said means for modulating, said means for interfacing with a communication network providing said transmission signal to a network.

45. The multiple generation communications device, according to claim 43, further comprising means for up-sampling, coupled with said means for generating said first signal generation bandwidth Baseband signal, said means for up-sampling, up-sampling sampled Baseband data, thereby producing multiple copies of said sampled Baseband data.

46. The multiple generation communications device according to claim 43, wherein said means for controlling selects said first generation bandwidth Baseband signal to modulate said second generation carrier signal, when transmitting to first generation communication devices.

47. The multiple generation communications device according to claim 43, wherein said means for controlling selects said second generation bandwidth Baseband signal to modulate said second generation

carrier signal, when transmitting to second generation communication devices.